

Claims: I claim:

- 1.** A method of creating a defocused image from an existing image, comprising:
 - (a) providing a memory which is able to store a series of pixel data,
 - (b) storing a series of input pixel data in said memory,
 - (c) storing a series of output pixel data in said memory,
 - (d) storing a series of aperture pixel data in said memory,
 - (e) providing a characteristics function in a mathematic form for converting logarithmic data scale to linear scale,
 - (f) providing a display which is operatively connected to said memory for displaying said series of input pixel data, said series of output pixel data, and said series of aperture pixel data,
 - (g) providing a computer processing unit which will:
 - (1) reset the contents of said series of output pixel data to zero,
 - (2) convert the scale of said input pixel data to linear scale using said characteristics function,
 - (3) compute a series of pixel data of a defocused disk for each pixel of said input pixel data,
 - (4) add said series of pixel data of a defocused disk to said series of output pixel data until all of said series of input data are processed, and
 - (5) convert back the scale of said output data to logarithmic scale using said characteristics function,

whereby said display will display an defocused image using said a series of output pixel data.

- 2.** The method of Claim 1 wherein the aperture shape is given by a set of mathematical functions;
- 3.** The method of Claim 1 wherein the characteristic curve is given by a table for individual values.

